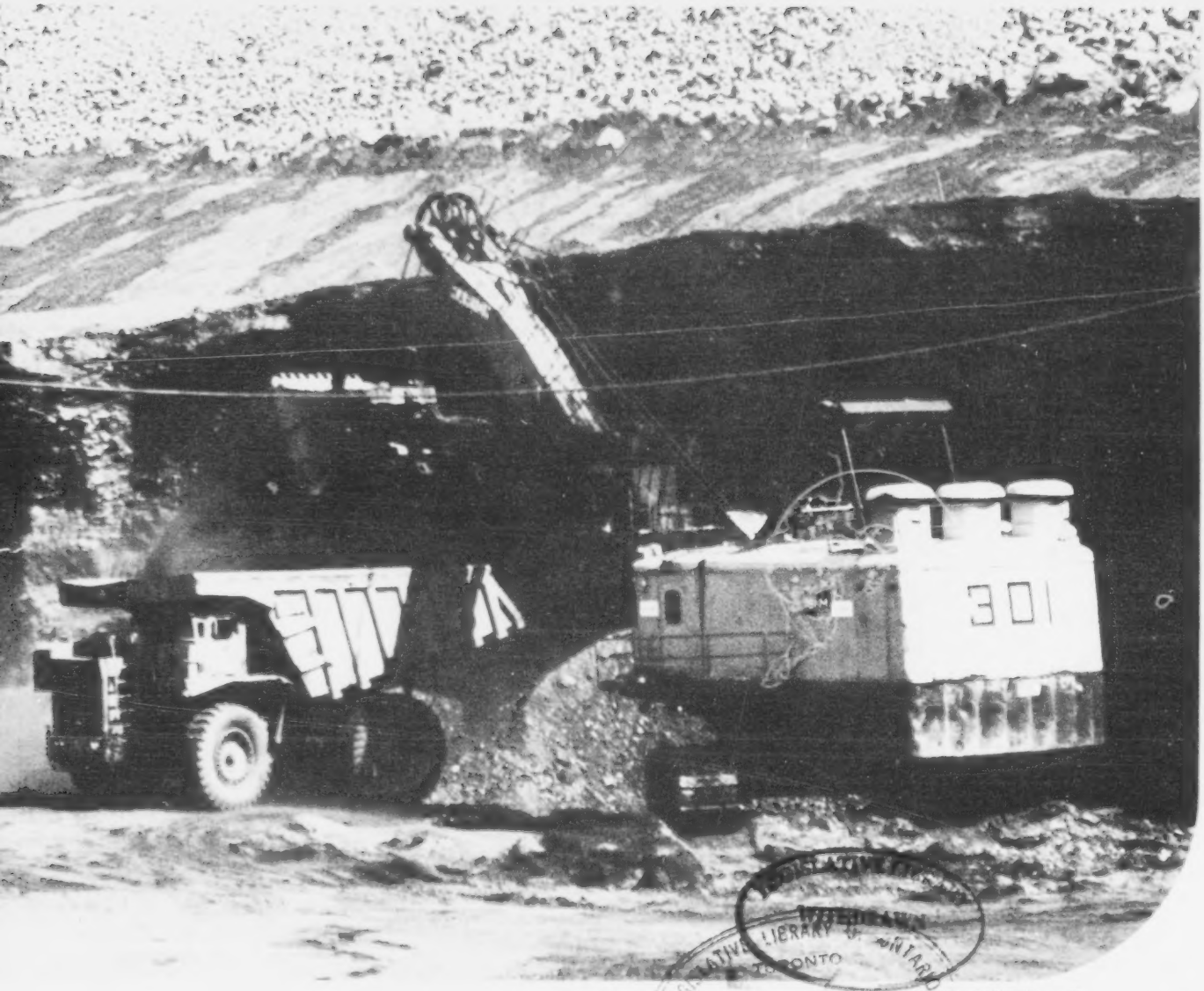
Mineral Taxation in British Columbia



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Province of British Columbia

Ministry of Energy, Mines and Petroleum Resources

MINERAL TAXATION IN BRITISH COLUMBIA

By

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Economics and Planning Division

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ERRATA

This report assumes that tax changes proposed in the federal budget of November 16, 1978 were implemented. As of August 1979, due to a change in government at the federal level, these changes had not been implemented although Finance Minister Crosby has recently indicated they will be re-introduced. The reader is therefore cautioned about the accuracy of analysis and interpretation of some of the material in this report.

F. C. Basham
August 1, 1979

FOREWORD

This paper was initially developed as a presentation to the British Columbia and Yukon Chamber of Mines short course on *Mining, Metallurgy, and Money*, February 13 to March 13, 1979. It serves as a descriptive personal interpretation of policy, regulations, and applications in British Columbia. It is not to be regarded as definitive or exacting; only the relevant statutes, regulations, and interpretation bulletins would provide this precision. The views expressed herein are those of the authors and do not necessarily represent those of the Government of British Columbia.

The authors greatly acknowledge the assistance of Bill Ross, Peter Crompton, John Elliott, Dan Evans, Keith Prowse, John Clancy, and Lori Doerkson for their contributions.

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I. MINERAL TAXATION POLICY

1.1 Federal Income Taxation

The central concept of federal income taxation as it pertains to the mineral sector appears to be the maintenance of a healthy industry with adequate return to resource owners and a secure federal tax base. In practice, the philosophy reduces to giving adequate recognition to the economic circumstances of the industry and ensuring that equitable shares of tax revenues to the federal government vis à vis the provinces.

The federal income tax system achieves the former by providing an elaborate system of allowances and credits for capital cost, exploration and development expense, new investment, infra-structure contribution by the mining company, and for depletion of the mineral in recognition of its finite size and potentially variable quality.

The latter is primarily accomplished by disallowing provincial resource taxes and royalties as deductions from income for federal income tax purposes. Instead of this so-called 'deductibility', the federal system provides a "resource allowance" amounting to some 25 per cent of net income after capital cost allowance in lieu of provincial resource levies.

1.1 Federal Income Taxation cont

The emergence of the "resource allowance" as part of the federal income tax system is a phenomenon of the early 1970's metal market boom. Basically, provincial resource taxation systems began to take larger shares of economic rent. This behaviour by the provinces was not limited to provincial administrations with left-of-centre inclinations. During the period, the Conservatives in Alberta and Ontario were as acquisitive of economic rents as Liberals in Quebec or the New Democrats in British Columbia, Saskatchewan and Manitoba. As now appears to be the case, some of these tax systems may have been quite short-sighted; several systems have been subsequently adjusted.

Prior to 1974, Ottawa permitted the deduction of royalties and mining taxes. However, faced with the prospect of an eroding income tax base, due to fairly significant increases in provincial resource levies, the federal government moved to protect further erosion of its tax base by introducing first a 15 per cent abatement in 1974, later replaced in 1976 by a 25 per cent resource allowance.

Concept of Mining Income

Mining income is defined as income from mining or exploring for metals, coal, oil, potash, industrial minerals in non-bedded

Concept of Mining Income cont

deposits, etc.; royalties or rentals computed by reference to the volume or value of minerals; income from the sale of resource properties or portions of these properties; and income from processing the mineral up to the prime metal stage.

The Capital Cost Allowance

Capital cost allowance is a tax approximation of book/accounting depreciation. The idea is to give explicit recognition to recovery of capital costs before taxes are assessed. Capital cost allowance rates of depreciation are higher than book or accounting rates of depreciation. This is so because accounting depreciation is intended to recognize the useful life of an asset whereas tax depreciation is designed to give faster write-off to recognize the need for fast capital recovery. If it is to a taxpayer's advantage, he can charge up to the maximum allowable capital cost allowance on any asset in order to reduce his taxable income; alternatively, he can take a minimum or nil tax depreciation rate if he is not likely to be in a taxable income position anyway and, thereby, defer the deduction until later when it might be of greater benefit.

Expenditures eligible for capital cost allowance are theoretically distinguished from other expenditures in the following way. If a good or service is acquired for the general purpose of producing

The Capital Cost Allowance cont

income it is referred to as a capital asset. Furthermore, if the asset acquired has an identifiable life beyond a once-only utilization (eg. a gallon of fuel or an hour of labour), then some expense associated with its eventual replacement must be recognized. Physical deterioration of the asset is also part of the concept of capital cost depreciation.

It is important to understand the conceptual difference between an operating cost and a capital cost. Some of the controversy surrounding evolution of our current structure had to do with classifying capital and operating expenditures. As recently as last November, just prior to the last federal budget, overburden stripping in an existing mine was considered to be largely operating expense and therefore not recognized as an acquisition for purposes of producing a future income stream. What this meant in a tax situation was that a company not earning a profit had to increase its operating loss by including the stripping as an operating expense and the loss so generated became eligible for loss carry-forward. After the November budget, this expenditure could be capitalized and written off at up to 100 per cent in any year, thereby allowing deferment of the write-off.

Most mining assets fall within three principal capital cost categories for purposes of determining allowable rates of CCA

The Capital Cost Allowance cont

depreciation. These categories are referred to asset classes and those of primary interest to mining are Class 12's, Class 10's, and Class 28's. We will go into these in more detail later.

Resource Allowance

For present purposes, it suffices to say that the concept of the allowance is to protect further erosion of the federal income tax base by constraining the amount of provincial resource levies that can be deducted for federal income tax. The allowance is taken on current period net cash flow after capital cost has been deducted but before exploration and development expense and serves to reduce the effective rate of federal taxation by at least 25 per cent.

Earned Depletion

The concept of earned depletion attempts to give explicit incentive for and recognition to the exhausting nature of the natural resource that is being extracted. This recognition is extended because a mining company, in order to stay in business, must go out and find additional ore reserves at some other location thus rendering the assets at the existing mine as useless once the ores are extracted. Furthermore, the depletion system is intended to give some recognition to the fact that what might appear to be an economic deposit at one point in time, might be otherwise due to external or internal

Earned Depletion cont

circumstances. Examples might be new environmental regulations or encountering of grades or quality of ore that were not anticipated.

Depletion must be 'earned' in the sense that only qualifying expenditures are eligible for inclusion in the earned depletion pool. Automatic depletion existed in the federal system up to 1974 and thereafter was discontinued because the government felt that only those companies actually reinvesting their profits in the finding of more economic deposits should qualify for the lower effective tax rate afforded by earned depletion.

It is important to recognize that the earned depletion system provides the profitable operator with the equivalent of 130 per cent write-off (100 per cent of actual eligible expenditures plus depletion at 33 1/3 per cent).

Evolution of Current Federal Tax System

There are some very good articles on the evolution of our present federal system which provide excellent insight into the relevant historical events. In particular, the reader is referred to Chapter I of the CCH book on "Canadian Taxation of Mining Income" by Holland and Kemp.

Evolution of Current Federal Tax System cont

In summary, the key events which appear to have led to the present structure, and/or situations which have resulted in fundamental alterations from what might have been called a reasonably stable and stimulative tax system in the 1950's and 1960's are the following:

1. Royal Commission on Taxation (Carter Commission 1968)
   a. recommended removal of the three-year tax exempt status of new mines;
   b. recommended removal of automatic depletion;
   c. other special tax incentives such as 'capital gains', proceeds of sale of a resource property, were recommended for removal.

2. Tax Reform of 1972 This saw the adoption of many of the Carter Commission recommendations including:
   a. dropping three-year tax free status for new mines;
   b. phasing in over a five year period of
      - earned depletion
      -non-deductibility of provincial mining taxes
      - accelerated capital cost allowance on assets for new mine or major expansion of existing mine;
   c. capital gains tax was phased in and proceeds from sale of a resource property made subject to tax.

Earned Depletion cont

3. Federal Budget of May 1974 This was primarily a response to the metal market boom and escalating provincial mining taxes. The budget saw acceleration in the introduction of several Tax Reform measures and other provisions including:

   a. Non-deductibility of provincial levies offset by introduction of 15 per cent abatement system;
   b. dropping the tax rate on mining income to leave room for the provinces (down to 25 per cent);
   c. early introduction of earned depletion;
   d. separate amortization schedules for exploration and development; up to 100 per cent and up to 30 per cent respectively.

4. 1976 Federal Budget

   a. resource allowance of 25 per cent replaced 15 per cent abatement;

5. November 16, 1978 Federal Budget We will examine this more carefully later but for the moment we will note the following provisions:

   a. introduction of tax credits for long haul transportation equipment;
   b. enhancement of earned depletion pool to include company expenditures on townsite and other social assets;

Earned Depletion cont

c. development expense can be written off at up to 100 per cent;

d. overburden stripping and underground driveages included in development expense and hence, available for 100 per cent write-off.

1.2 British Columbia Mineral Taxation Policy

Tax policy for the mineral sector in British Columbia is expected to be consistent with the province's economic development objectives, its industrial strategy, as well as ensuring equitable revenue returns to the government. A number of general goals have been identified for the resource industries so as to accommodate broad provincial development strategy. These goals are:

1. maintenance of viable industrial base;
2. encouragement of exploration and development to maintain and/or extend the life of the activities using non-renewable resources;
3. enhancement of provincial employment and production opportunities, through the encouragement to further resource processing;
4. using resource development as an instrument for regional economic expansion and economic diversification;
5. encouragement of small independent enterprise; and

British Columbia Mineral Taxation Policy cont

6. appropriate environmental protection by controlling environmental and other negative externalities.

In support of these broader goals, the province's resource taxation system adheres to the basic principles of public finance designed to ensure equitable, and non-discriminatory tax treatment based on ability to pay. Thus, the provincial resource tax regime strives for:

1. Tax Neutrality and Equity. The system is said to be equitable and neutral between various industrial sectors if taxation renders equal treatment to those of equal circumstance, and generally refrains from distorting the allocation of productive resources;
2. Tax Harmonization. That is, the tax system and levels should be similar between regions so that mining development within Canada is undertaken on the basis of economic comparative advantage rather than special regional tax treatment.
3. Tax Stability and Certainty. Resource tax systems should offer reasonable stability and certainty as to future tax liabilities and as to federal and provincial shares of revenues from the resource sector.

Within these fundamental objectives of the Province's tax system, what then are the major components of tax and their rationalization?

British Columbia Mineral Taxation Policy cont

Under Section 91 of the British North America Act, the provinces are permitted jurisdiction over management of natural resources. Fiscal systems permitted are limited to those taxes levied directly on the intended payer in contrast to methods which enable the tax to be 'passed on'. Hence, the provinces are restricted to direct taxation methods; the federal government is permitted into fields of direct as well as indirect taxation.

Direct Taxation:

- consumer sales tax
- income tax on corporations and individuals
- resource taxes and royalties

Indirect Taxation:

- primarily taxes at the wholesale level
- 'ad valorem' types of taxes, including tariffs on imported goods, excise taxes on goods leaving the country.

While there has been substantial debate and litigation in the courts over the legitimacy of several provincial taxes and royalties, the main issues seem to boil down to whether a tax is direct in effect or intention.

Let us examine briefly what is available by way of legitimate provincial resource taxation systems. Historically, a private

British Columbia Mineral Taxation Policy cont

resource owner charged a royalty, or share of the quantum or value of production. Governments have utilized the royalty concept as a means of extracting compensation for a private company utilizing a crown-owned mineral resource. Thus, the traditional form of the royalty was a percentage share of the quantity or value of mineral production from crown-owned lands.

There have been many variants on the simple royalty concept:

Royalty Variants

1. percentage of quantity of production on royalty taken in kind (eg. Alberta royalty oil);
2. percentage of value royalty (eg. existing B.C. coal royalty of 3.5 per cent of minehead value of coal);
3. fixed dollar royalty based on volume of production (eg. previous B.C. coal royalty of $1.50 per long ton);
4. progressive royalty tied to rate of return on capital employed (eg. Saskatchewan uranium royalty or Alberta coal royalty);
5. incremental royalty which applies higher royalty to higher price of metal (eg. previous B.C. mineral royalty and "incremental royalty").

In British Columbia, crown royalties remain only for coal, iron ore, natural gas and crude oil. Metallic mineral royalties were repealed in 1976.

British Columbia Mineral Taxation Policy cont

The principle behind maintaining a royalty, at least for the energy minerals, has to do with the government's view that these minerals generate more economic rent, the operators presumably have a greater ability to pay, and these minerals are somehow 'strategic' to the province and therefore must generate positive revenues to the crown. Note that as long as a resource levy is based on profit, then tax revenues are zero if profits are zero.

Profit Taxes

We will be discussing two kinds of profit taxes - Corporation Income tax and the Mineral Resource tax.

The Province has the constitutional authority to levy income tax on corporation profits earned within British Columbia. The British Columbia corporation income tax is reasonably straight forward in that it is calculated from an adjusted federal income tax base. The major adjustment is that the province does not permit the federal resource allowance as a deduction and therefore this abatement is added back into income. As a consequence of the 'add-back', the income base against which earned depletion, capital cost allowance, and other deductions charged are somewhat different from the federal calculation. Deductions for B.C. income tax will therefore, often be different in amount and timing than the same deductions for federal income tax, although calculated under the same deduction rules.

Profit Taxes cont

The rationale behind British Columbia's non-recognition of the federal resource allowance appears to stem from a policy that resource levies should be deductible for federal and provincial corporation income tax purposes. Thus, coal, oil and natural gas royalties are deductible for provincial corporation income tax purposes. Mineral Resource Tax and Mining Tax payments however, are not deductible. However, it is apparent that the rates set for the Mineral Resource Tax and the Mining Tax were set recognizing the effective burden of taxation relative to other jurisdictions and recognizing that these taxes would not be deductible under British Columbia Corporate Income Tax.

The Mineral Resource Tax in British Columbia is a fixed profits-based tax levied against the income derived from mining properties in the province. The tax is intended to apply to the mine-mouth value of production as distinct from income derived from milling, concentrating, smelting or refining the ore.

The concept of mine-specific taxation under the Mineral Resource Tax is apparently related to the policy of the government that this tax should be used as an instrument for resource management on a property by property basis. So, with respect to conservation and efficiency in the allocation of resources, the Mineral Resource Tax is neutral. That is, the tax itself does not distort the flow

Profit Taxes cont

of investment to one project or another, since there is no tax advantage to consolidation of earnings between two or more mines owned by the same operator. The mine-specific Mineral Resource Tax is also consistent with the province's philosophy of encouraging small independent enterprise. Corporate, as distinct from mine-specific, mineral resource taxation would lead to greater consolidation in the industry.

Furthermore, the Mineral Resource Tax has evolved as a compromise to metallic mineral royalties which were a feature of the 1973-1975 period. In this period, royalties were levied on minehead value of production and no recognition was given by this system to profitability of the mine. The Mineral Resource Tax, by comparison, levies tax only if the operation is profitable. However, it does incorporate one unique feature of the former system - tax is levied on a mine by mine basis.

Another feature of the Mineral Resource Tax is that it does not allow project losses to be carried forward as a deduction against future income streams. A resource tax on corporate operations, in contrast, could allow a reduction in taxable income in future years by the amount of previous years' losses. This would depend on the specifics of the statute.

Profit Taxes cont

Since the Mineral Resource Tax is intended to apply to the mine-mouth value of production, some means must be adopted whereby the income derived from further processing (ie. milling, concentrating, smelting or refining) can be eliminated from the Mineral Resource Tax taxable income base. So called 'processing allowances' have evolved in all provinces as a means to eliminate the income attributable to processing. In British Columbia, the allowance is 8 per cent of the undepreciated balance of processing assets, or a minimum of 15 per cent of income to a maximum of 65 per cent of income. Due to the accelerated capital cost write-offs, the minimum 15 per cent rate becomes applicable very early in the project. Each province has a similar version of the processing allowance although all other provinces have the allowance based on the original cost of the processing assets.

In summary, the British Columbia system of resource taxation is unique compared with other provinces in the sense that the British Columbia system levies a fixed rate tax on corporate profits (Corporation Income Tax) as well as on resource property income (Mineral Resource Tax). Ontario, by contrast, has progressive rates. In Ontario, the income tax is 13 per cent and the mining tax can reach 40 per cent.

FIGURE 1

ONTARIO MINING
TAX RATES

TAXABLE INCOME RANGE	TAX RATE (%)
0 - 100,000	NIL
100,000 - 1,000,000	15
1,000,000 - 10,000,000	20
10,000,000 - 20,000,000	25
20,000,000 - 30,000,000	30
30,000,000 - 40,000,000	35
40,000,000 -	40

Profit Taxes cont

Manitoba's tax regime, now under review by officials in that province, has an income tax of 15 per cent combined with metallic mineral royalties. The royalty rate is either 15 per cent of taxable profit up to the profit base (up to 18 per cent of investment base) and 35 per cent of taxable profit greater than the profit base.

II. CURRENT FEDERAL AND PROVINCIAL MINERAL TAXATION STRUCTURE

2.1 Federal Income Tax

A straight forward illustration will serve our purpose here (see Figure 2).

Inventory Allowance

Three per cent of tangible inventory is allowed as a deduction from operating profit.

Capital Cost Allowance

Capital cost is computed on pools of like assets. There are three major categories applicable to mining, namely Class 10's, Class 12's and Class 28's (see Figure 3).

Resource Allowance

The allowance is 25 per cent of the taxpayers cash flow from Canadian mineral properties net of claimed capital cost allowance. The resource allowance serves to reduce effective federal corporate tax on current income by at least 25 per cent.

FIGURE 2
CALCULATION OF
FEDERAL INCOME TAX

+ Gross Income	
- Operating Costs (Mining, Processing, Marketing, Administration, Transp.)	
+ Operating Profit	
- Inventory Allowance (3% of working capital, tangible stock in trade)	
- CCA Major Mining and Processing Assets	(0 - 100% w/o)
- CCA Other Mining and Processing Assets	(0 - 30% D.B.)
+ Resource Income s.t. Resource Allowance	
- Federal Resource Allowance	(25% of R.I.)
- Debt Interest	
- Canadian Exploration Expense	(0 - 100% w/o)
- Canadian Development Expense	(0 - 100% w/o)
+ Income Subject to Earned Depletion	
- Earned Depletion	(25% of above)
- Loss Carry Forward	
+ Taxable Income	
x Tax Rate	(46% - 10% provincial abatement = 36%)
= Tax Payable	
- Tax Credits	(Research and Investment Tax Credits)
= Adjusted Tax Payable	

FIGURE 3
FEDERAL CAPITAL COST ALLOWANCE

BALANCE IN EACH ASSET CLASS

+ OPENING BALANCE, CARRIED OVER FROM PREVIOUS YEAR	90,000
+ COST OF ADDITIONS IN YEAR	30,000
- PROCEEDS OF DISPOSAL IN YEAR	(20,000)
+ AMOUNT AVAILABLE FOR WRITE-OFF	100,000
- WRITE-OFF, (UP TO 30% / 100%)	30,000
+ CLOSING BALANCE, CARRIED OVER TO NEXT YEAR	70,000

ASSET CLASSES

CLASS 10

INCLUDES - REPLACEMENT OF MINE MACHINERY, EQUIPMENT, BUILDINGS, STRUCTURES, SOCIAL CAPITAL AT MINE SITE, RAILROAD INFRASTRUCTURE

W/O RATE - OPTIONAL UP TO 30% OF BALANCE

CLASS 12

INCLUDES - UNDERGROUND MINE SHAFTS, MAIN HAULAGE WAYS, MAJOR EXTENSIONS TO UNDERGROUND MINE

W/O RATE - OPTIONAL UP TO 100% OF BALANCE

CLASS 28

INCLUDES - MOST NEW MINE EXPENDITURES (TREATED AS CLASS 10 ASSETS WHEN REPLACED), MAJOR EXPANSIONS TO MILL, DEVELOPMENT COSTS FOR NEW MINE, ETC. EXCLUDES RAILROAD AND SOCIAL ASSETS.

W/O RATE - MAXIMUM IS GREATER OF 30% OF BALANCE OR AMOUNT OF INCOME FOR WHICH ASSETS ARE USED. (OPTIONAL)

Canadian Exploration Expense

This deduction is for cost of exploration, prospecting and other geological costs after 1974. For principal-business corporations the mandatory deduction is the lesser of:

1. unamortized balance of previously deferred costs; or
2. profits as calculated before the write-off and before earned depletion.

Note that overburden stripping after November 16, 1978 is included in Canadian exploration expense. Prior to this, overburden stripping was considered an operating expense and as such had to be written off completely. Now, the option is available to defer the write-off to the extent that it exceeds profits before the write-off.

Canadian Development Expense

This includes development costs on properties not yet in production (after 1974) and also the cost of acquisition of resource properties. After November 1978, these costs can be written off optionally at up to 100 per cent of the maximum of the unamortized cost at the end of the year plus income derived from issuance of shares for performing exploration and development work. Also, after November 16th, Canadian Development Expense falls under the same rules as Canadian Exploration Expense, thereby making the deduction mandatory.

Earned Depletion

Earned depletion is taken as the lesser of the unclaimed earned depletion base or 25 per cent of profits immediately before the depletion deduction. The earned depletion base consists of 1/3 of the following:

1. Class 28 assets or all major assets such as machinery and equipment, buildings, structures.
2. mineral processing machinery and equipment;
3. Canadian exploration and development expense;
4. townsite and other social infrastructure investments (after November 1978).

Loss Adjustments

There is a five year loss carry-forward provision under Federal Corporation Income Tax. However, Canadian exploration expense and development expense write-offs must be taken before deducting loss carry forwards.

Tax Rate

Federal taxes payable are calculated on taxable income computed after all deductions. The general tax rate for mining is 46 per cent less 10 percentage points which allow room for provincial taxes other than resource taxes.

Tax Credits

The principal tax credit of interest to mining is the investment tax credit which was first introduced in 1975 as an incentive to new investment. In British Columbia, an amount equal to 7 per cent or 10 per cent, depending on whether the project falls within a DREE - designated region, of the cost of qualified assets is added to a pool called the investment tax credit. The pool can be carried over for 5 years. The lesser of the following is deducted from tax otherwise payable:

1. the investment tax credit; or
2. $15 000 plus half of the amount, if any, by which tax otherwise payable exceeds $15 000.

The credit primarily applies to buildings, machinery and equipment and (after the November 1978 budget) to long haul transportation equipment. Use of the asset is restricted to prospecting, exploring or developing a mineral resource, extracting or processing the mineral, or manufacturing into a saleable good. In the case of mining, Class 10 and Class 28 assets are eligible for inclusion in the tax credit base. The exclusions are: social infrastructure, non-company owned assets, offices not situated at the mine, etc.

2.2 British Columbia Corporation Income Tax

The computation of British Columbia Corporation Income Tax closely parallels the Federal Income Tax (see Figure 4). However, British Columbia does not permit deduction of the federal resource allowance; instead crown royalties (coal, petroleum and natural gas) are deductible. Note that the mineral resource tax and mining tax are not deductible for provincial CIT. Separate calculations of capital cost allowance, exploration, development, and depletion deductions may be made for B.C. income tax due to the non-deductibility of the federal resource allowance. Thus, companies can independently minimize both federal and British Columbia income tax.

2.3 British Columbia Mineral Resource Tax

The computation starts with federal taxable income and adds back those items not allowed for mineral resource tax including the resource allowance, other year loss adjustments, and adjusts other items attributable to non-British Columbia or non-property specific income. Again independent calculations of capital cost allowance and development (restricted to resource property being taxed) and exploration expense (restricted to British Columbia exploration) are required. Depletion is also calculated independent of the federal calculation (see Figure 5). These deductions can

FIGURE 4

CALCULATION OF
BRITISH COLUMBIA CORPORATION INCOME TAX

+ Operating Profit from B.C. operations

Deductions:

- B.C. Crown Royalties
- Inventory Allowance (3% of working capital, tangible stock-in-trade)
- B.C. Capital Cost Allowance*
- Interest Expense
- B.C. Exploration/Development Expense*
- B.C. Earned Depletion*
- Losses Carried Forward

= B.C. Taxable Income

x B.C. Corporation Income Tax (15 per cent)

= B.C. Income Tax

*Can be optimized independent of Federal deductions.

FIGURE 5

CALCULATION OF
BRITISH COLUMBIA MINERAL RESOURCE TAX
(METALLIC MINERALS)

+ Federal Taxable Income (Loss) Per T2S(1)

Add-Backs:

+ Federal Capital Cost Allowance
+ Federal Resource Allowance
+ Federal Exploration Expense
+ Federal/Canadian Development Expense
+ Federal/Canadian Earned Depletion
+ Expenses of Extra-Provincial Income
+ Expenses of other B.C. Mines
+ Federal Loss Adjustments
+ Interest Income

= Sub-Total

Deductions:

- Extra-Provincial Income
- Income from other B.C. Mines
- B.C. Capital Cost Allowance (Mine Specific)
- Interest Expense Net of Interest Income
- B.C. Exploration Expense (B.C. specific)
- B.C. Development Expense (Mine specific)

= Income for B.C. Depletion

- B.C. Depletion

= Income for Processing Allowance

- B.C. Processing Allowance (8% u.d.b.; minimum 15% of IPA maximum 65%)

= Taxable Income

x 17.5 per cent tax rate

= Mineral Resource Tax Payable

British Columbia Mineral Resource Tax cont

therefore, be optimized under this tax, and may differ from provincial and federal corporate tax deductions, even if the amounts in the asset / expenditure pools are identical.

2.4 British Columbia Mining Tax

The Mining Tax applies to coal and most industrial minerals. Add backs are similar to those under the Mineral Resource Tax (ie. Federal Resource Allowance, etc.) and the CCA, Canadian exploration and development pools can be calculated independent of the federal calculation. Depletion and loss adjustments are not permitted (see Figure 6). There are two unique features to be noted:

1. The tax applies to corporate income within British Columbia rather than property income. This enables losses on one property to be consolidated with profits on another property owned by the same taxpayer.
2. Crown coal royalties and mineral land tax payments are deductible.

2.5 Coal Royalties

British Columbia levies a royalty on coal production from Crown lands. The royalty is 3.5 per cent of the quantum of production, deemed to be disposed of at the minehead value of coal sold by

FIGURE 6

CALCULATION OF BRITISH COLUMBIA MINING TAX

(COAL, INDUSTRIAL MINERALS)

+ FEDERAL TAXABLE INCOME

ADD BACKS:

+ FEDERAL CCA
+ FEDERAL EXPLORATION AND DEVELOPMENT EXPENSE
+ FEDERAL EARNED DEPLETION
+ FEDERAL RESOURCE ALLOWANCE

= INCOME BEFORE B.C. PERMISSIVE DEDUCTIONS

DEDUCTIONS/OTHER ADJUSTMENTS:

- CROWN ROYALTIES AND MINERAL LAND TAXES
- B.C. CAPITAL COST ALLOWANCE
- CANADIAN EXPLORATION AND DEVELOPMENT EXPENSE
+ LOSS ADJUSTMENTS (CARRY FORWARDS) FROM OTHER YEARS
+ FEDERAL DEDUCTIONS CLAIMED FOR NON-B.C. ACTIVITY
- B.C. PROCESSING ALLOWANCE (8% U.D.B.; MINIMUM 15%, MAXIMUM 65%)

= B.C. TAXABLE INCOME

x MINING TAX RATE (15%)

= MINING TAX

N.B. DEPLETION IS NOT ALLOWED.

FIGURE 7

DETERMINATION OF BRITISH COLUMBIA COAL ROYALTY

Transportation Costs

1.	Rail, Truck and other Freight Costs	XXXX
2.	Port and Terminal Charges	XXXX
3.	Ocean Freight and Insurance	XXXX
4.	Total Costs incurred	XXXXX
5.	Plus Previous Inventory-in-Transit	XXXX
6.	Less Current Inventory-in-Transit	(XXXX)
7.	Applicable Transportation Costs	XXXXX

Royalty Calculations

1.	Gross Fair Market Value of Mine Dispositions	XXXXXX
2.	Gross Fair Market Value of Port Dispositions	XXXXXX
3.	Total Gross Value of Dispositions	XXXXXX
4.	Applicable Transportation Costs	(XXXX)
5.	Minehead Value of Dispositions	XXXXXX
6.	Royalty @ .035 Minehead Value	XXXX

Coal Royalties cont

the company. An illustration of the calculation of minehead value is shown in Figure 7.

The percentage of value royalty was introduced in mid 1978 and replaces the fixed royalties of $1.50 per long wet ton for metallurgical coal and $.75 for thermal coal. Prior to introduction of this new royalty metallurgical coals were classified as those coals with free-swelling indices greater than 4.

Coal royalties are deductible for British Columbia Mining Tax and Corporation Income Tax but not for Federal Income Tax.

2.6 Mineral Land Tax

This is a three-tiered tax structure applied only to freehold mineral rights. The basic tax ranges from $.25 to $1.00 per acre. If the property is known to be commercially viable or is producing a mineral, a basic tax of $2.00 per acre overrides the above minimum. Further, if the property is producing a 'designated' mineral, then tax is also paid based on assessed value times a mill rate. At present, only freehold coal, natural gas and crude oil pay the third component of the tax; in these situations the assessed value and mill rates are designed to collect roughly the equivalent of applicable crown royalties.

2.7 Other Major Federal and Provincial Taxes

The following other types of taxes are applicable to mining in British Columbia:

1. B.C. Corporation Capital Tax. This tax is applied on a corporation's paid-up taxable capital employed in British Columbia. The rate of tax is .2 per cent. Taxable capital consists of paid-up share, debt and reserves capital less allowances for goodwill and investment holdings.
2. Municipal Taxes. These vary from region to region and are based on assessed value of land and improvements times the applicable mill rate.
3. British Columbia Social Services Tax. This is a sales tax and is levied at the origin of purchase on goods and services purchased by a mine for use within British Columbia. The rate of tax is 5 per cent of price.
4. Federal Sales Tax. This is levied at the level of manufacturer and applies to certain goods and services manufactured and sold in Canada. The rate is 9 per cent.

III. USING DEDUCTIONS TO MINIMIZE TAXES FOR A HYPOTHETICAL PROJECT

It is useful to examine a number of hypothetical cases in order to clarify the workings of the tax systems which have been outlined previously. This exercise also illustrates the real effects of each deduction in terms of the mine's net tax liability, and demonstrates when, in what amounts, and why certain deductions should be used in order to minimize the net tax liability.

The cases that are outlined here are based upon investment and operating profit (revenues less operating costs) schedules for a hypothetical B.C. metal mine, and as such are not intended to represent realistic figures. In all cases, it will be assumed that the mining company has only one operating mine, located in B.C., and that all exploration and development expenditures occur in B.C. This simplifies the calculations and clarifies the workings of the tax systems. Some general comments regarding the effects of relaxing these assumptions will be made later. The various deductions and rationales behind their usage patterns will be examined, and a number of general "rules" formulated for tax minimization under the Federal Income Tax, B.C. Income Tax, and Mineral Resources Tax systems.

Because it is deductible in all cases, the inventory allowance is not adjustable for tax minimization and is ignored in this analysis. Effects of the investment tax credit are also not considered here.

3.1 Federal Income Tax

Present Value Effects on Tax Liabilities

Before looking at the specifics of the tax system and tax minimization, it is useful to examine the concept of present value and its effects on tax deduction patterns.

Figures 8A and 8B present a simple case wherein an orebody is brought into production, incurring expenditures of $50 for exploration in year 1, $100 for development in year 2, and $300 for plant and equipment in each of years 2 and 3. (This same investment scenario will be used in all subsequent examples.) The mining company expects an operating profit (net sales revenue less total production costs, but before interest, tax, book depreciation, and book depletion) of $200 per year over an operating life of 5 years. The company thus has a pool of $600 available for plant and equipment capital cost allowance. We will assume these are all class 28 assets. A pool of $150 is available for write-off as exploration and development deduction. Does it matter when the mine takes these deductions, given that they will all be used over the mine's operating life?

In Figure 8A, capital cost allowance (CCA) is used to its allowed maximum (ie. the greater of income or 30% of the pool, which in this case is income = $200) in the first 3 years of production.

FIGURE 8A PRESENT VALUE EFFECTS ON MINE TAXATION

	1	2	3	4	5	6	7	8
EXPL & DEVT	50	100						
PLANT & EQUIP		300	300					
OPER PROFIT				200	200	200	200	200
- CCA				200	200	200	0	0
RES ALL BASE				0	0	0	200	200
-RES ALL				0	0	0	50	50
-INT EXP				0	0	0	0	0
-EXPL/DEVT				0	0	0	150	0
-E. DEPL				0	0	0	0	37.5
-LOSS C/F				0	0	0	0	0
FED TAX INC				0	0	0	0	112.5
FED TAX				0	0	0	0	40.5

TOTAL TAX = $40.50

PV at 10% = $18.89

FIGURE 8B PRESENT VALUE EFFECTS ON MINE TAXATION

	1	2	3	4	5	6	7	8
OPER PROFIT				200	200	200	200	200
- CCA				0	0	200	200	200
RES ALL BASE				200	200	0	0	0
- RES ALL				50	50	0	0	0
- INT EXP				0	0	0	0	0
- EXPL/DEVT				150	0	0	0	0
- E. DEPL				0	37.5	0	0	0
- LOSS C/F				0	0	0	0	0
FED TAX INC				0	112.5	0	0	0
FED TAX				0	40.5	0	0	0

TOTAL TAX = $40.5

PV at 10% = $25.15

Present Value Effects on Tax Liabilities con't

Resource allowance is not employed until income becomes positive, in years 7 and 8. Exploration and development expense is claimed in year 7, reducing income in that year to zero. Earned depletion is calculated as the lesser of 25% of income before that deduction, or one third of the unclaimed balance of the earned depletion pool, and as such cannot be used until year 8. One ends up with a taxable income in year 8 of $112.50 and a net tax of $40.50.

In Figure 8B, CCA deductions are deferred until year 6. Exploration and development is a mandatory deduction which must be claimed to the extent of income before that deduction, and is therefore applied fully in year 4. This results in taxable income and net tax of the same amounts as in Figure 8A, but occurring in year 5. When the discounted value of the tax liability is compared, however, Figure 8A exhibits a lower real tax liability than Figure 8B. It is therefore evident that one should endeavor to defer tax liabilities to the extent this is possible.

Tax Minimization

In the following examples, the same investment schedule as for the previous case has been assumed, with operating profits of $100 generated annually over a 12 year operating mine life. Note that capital cost allowances for class 10 and class 12 assets have also

Tax Minimization cont

been calculated. These schedules are based on annual expenditures of $10 per year for replacement (class 10) assets in years 5 to 14, and $10 per year for underground development (class 12) assets. The maximum permissible deductions are assumed to be taken and are thus calculated on a 30% declining balance basis for class 10's, and as a 100% write-off for class 12's. No attempt will be made to adjust these deductions to minimize taxes, since their treatment parallels, to a large extent, that used for class 28 assets. This simplifies and clarifies the calculations.

In Figure 9A, capital cost allowance for class 28 assets (CCA 28) is used to reduce taxable income to zero for as many years as possible, thus deferring tax payment until year 13. This is the tax-minimizing deduction pattern if the loss carry-forward provision is ignored. Figure 9B considers the effects of creating taxable income losses which are carried forward to be claimed against future income as loss carry-forwards. Note that the taxable income is reduced from that in Figure 9A. This is due to the fact that CCA used to extend loss carry-forwards is deductible after all other items, whereas CCA used to reduce income to greater than or equal to zero also reduces the amount of the resource allowance which would otherwise be available as a deduction. In addition,

FIGURE 9A CCA USED TO REDUCE INCOME TO ZERO

	4	5	6	7	8	9	10	11	12	13	14	15
OPER PROFIT	100	100	100	100	100	100	100	100	100	100	100	100
- CCA 28	100	87	85	83	82	82	81	0	0	0	0	0
- CCA 10	0	3	5	7	8	8	9	9	9	10	10	7
- CCA 12	0	10	10	10	10	10	10	10	10	10	10	0
RES ALL BASE	0	0	0	0	0	0	0	81	81	80	80	93
- RES ALL	0	0	0	0	0	0	0	20.25	20.25	20	20	23.25
- INT EXP	0	0	0	0	0	0	0	0	0	0	0	0
- EXPL/DEVT	0	0	0	0	0	0	0	60.75	60.75	28.5	0	0
- E. DEPL	0	0	0	0	0	0	0	0	0	7.88	15.00	17.44
- LOSS C/F	0	0	0	0	0	0	0	0	0	0	0	0
TAX INC	0	0	0	0	0	0	0	0	0	23.63	45.00	52.31
FED TAX	0	0	0	0	0	0	0	0	0	8.51	16.20	18.83

TOTAL TAXABLE INCOME = $120.94

TOTAL TAX = $ 43.54

FIGURE 9B CCA USED TO CREATE LOSSES

	4	5	6	7	8	9	10	11	12	13	14	15
OPER PROFIT	100	100	100	100	100	100	100	100	100	100	100	100
- CCA 28	100	87	85	83	100	100	45	0	0	0	0	0
- CCA 10	0	3	5	7	8	8	9	9	9	10	10	7
- CCA 12	0	10	10	10	10	10	10	10	10	10	10	0
RES ALL BASE	0	0	0	0	(18)	(18)	36	81	81	80	80	93
- RES ALL	0	0	0	0	0	0	9	20.25	20.25	20	20	23.25
- INT EXP	0	0	0	0	0	0	0	0	0	0	0	0
- EXP/DEVT	0	0	0	0	0	0	27	60.75	60.75	1.5	0	0
- E. DEPL	0	0	0	0	0	0	0	0	0	14.63	15.00	17.44
- LOSS C/F	0	0	0	0	0	0	0	0	0	36	0	0
TAX INC	0	0	0	0	(18)	(18)	0	0	0	7.88	45.00	52.31
FED TAX	0	0	0	0	0	0	0	0	0	7.84	16.20	18.83

TOTAL TAXABLE INCOME = $105.19

TOTAL TAX = $ 37.87

Tax Minimization cont

where earned depletion allowance is taken as 25% of the taxable income, as is the case in these examples, its amount is reduced by the use of CCA in Figure 9A. The total tax shelter increase created by use of loss carry-forwards in Figure 9B is therefore:

a. due to resource allowance reduction:

.25 x CCA = .25 x 36 = $9.00

b. due to earned depletion allowance reduction:

.25 x (.75 x CCA) = .1875 x 36 = $6.75

where CCA = amount of CCA used to create losses.

This results in a tax saving of $5.65 in Figure 9B due to use of CCA to create losses.

The above argument suggests that one should endeavor to create taxable income losses through CCA deductions whenever possible. However, losses can only be carried forward for five years. Figure 9C illustrates the case where CCA's have been used to create maximum losses. This results in "staledating" of $119 worth of CCA deductions used to create losses, thus increasing the net tax liability significantly. Therefore, losses should only be created to the extent they can be carried forward and claimed in future periods.

There is another option not yet considered which can be employed to allow greater use of loss carry-forwards. A critical factor in the ability to use loss carry-forwards is the time elapsing between generation of the loss, and its use as a write-off against income.

FIGURE 9C CCA USED TO FULLEST EXTENT

	4	5	6	7	8	9	10	11	12	13	14	15
OPER PROFIT	100	100	100	100	100	100	100	100	100	100	100	100
- CCA 28	180	126	100	100	94	0	0	0	0	0	0	0
- CCA 10	0	3	5	7	8	8	9	9	9	10	10	7
- CCA 12	0	10	10	10	10	10	10		10	10	10	0
RES ALL BASE	(80)	(39)	(15)	(17)	(12)	82	81	81	81	80	80	93
- RES ALL	0	0	0	0	0	70.5	20.25	20.25	20.25	20	20	23.25
- INT EXP	0	0	0	0	0	0	0	0	0	0	0	0
- EXP/DEVT	0	0	0	0	0	61.5	60.75	27.75	0	0	0	0
- E. DEPL		0	0	0	0	0	0	8.25	15.19	15.00	15.00	17.44
- LOSS C/F	0	0	0	0	0	0	0	24.75	19.25	0	0	0
TAX INC	(80)	(39)	(15)	(17)	(12)	0	0	0	26.31	45.00	45.00	52.31
FED TAX	0	0	0	0	0	0	0	0	9.47	16.20	16.20	18.83
LCF's LOST	80	39	-	-	-							

TOTAL TAXABLE INCOME = $168.62

TOTAL TAX = $ 60.70

Tax Minimizatior. cont

This time gap can be reduced by adjusting the timing of the exploration/development deduction. In Figure 9B, the mine is prevented from using loss carry-forwards before year 13 because exploration/development write-off must be taken to the extent possible in years 10, 11, and 12. In Figure 9D, however, CCA 28 deductions are deferred, allowing exploration/development expense write-off in early years. There is no longer a gap between generation of losses and their absorption as loss carry-forwards, permitting their greater use and resulting in substantial tax savings.

Capital cost allowance can also be used to generate losses in the pre-production period. Tax savings can be substantial here, since the entire CCA amount claimed will generate losses. However, the risk of staledating is greater for these losses, and counteracts to some extent potential gains.

Effects of Debt Financing on Tax Liability

The presence of debt in the financial structure of a mine introduces an additional deduction item, namely interest expense. Where interest expense is incurred during the operating life of the mine (usually this is during the payback period of the loan), that expense is fully deductible in the year of its occurrence. It is deducted

FIGURE 9D USING E/D IN EARLIER PERIODS

	4	5	6	7	8	9	10	11	12	13	14	15
OPER PROFIT	100	100	100	100	100	100	100	100	100	100	100	100
- CCA 28	0	0	72	100	100	100	100	100	28	0	0	0
- CCA 10	0	3	5	7	8	8	9	9	9	10	10	7
- CCA 12	0	10	10	10	10	10	10	10	10	10	10	0
RES ALL BASE	100	87	13	(17)	(18)	(18)	(19)	(19)	53	80	80	93
- RES ALL	25	21.75	3.25	0	0	0	0	0	13.25	20	20	23.25
- INT EXP	0	0	0	0	0	0	0	0	0	0	0	0
- EXPL/DEVT	75	65.25	9.75	0	0	0	0	0	0	0	0	0
- E. DEPL	0	0	0	0	0	0	0	0	9.94	15.00	15.00	17.44
- LOSS C/F	0	0	0	0	0	0	0	0	29.81	45.00	16.19	0
TAX INC	0	0	0	(17)	(18)	(18)	(19)	(19)	0	0	28.81	52.31
FED TAX	0	0	0	0	0	0	0	0	0	0	10.37	18.83

TOTAL TAXABLE INCOME = $81.12

TOTAL TAX = $29.20

Effects on Debt Financing on Tax Liability cont

before the exploration/development deduction, and should be used fully in most cases. In the case of interest expense incurred in the pre-production period, however, one of two tax deduction options may be elected. This interest may be directly expensed in the pre-production period in which it occurs, thus creating a loss. Alternatively, one may choose to capitalize part or all of the interest expense,in which case this expense in incorporated into the appropriate asset pool and forms part of the eligible CCA deduction base.

The apparent risks of loss staledating through sub-optional deduction patterns are mitigated by a provision of the Tax Act allowing a company to refile tax returns in order to take best advantage of their deduction as long as the refiling does not change the tax position of the company (ie. in this case, the tax position before and after refiling would be zero). This means that projections of future net cash flows need not be accurate for the purposes of liability calculations, since the company can refile in future periods on the basis of actual future cash flows. Thus, the optional use of deductions can be determined at that time, avoiding unnecessary loss carry-forward staledating.

3.2 British Columbia Corporation Income Tax

For B.C. income tax calculations, the resource allowance is non-deductible. In the context of minimizing taxes, this means that the difference between using CCA (or pre-production interest expense) to generate losses verses using CCA merely to reduce income to zero or a positive value is restricted to the relative effects these deduction patterns have on the earned depletion deduction. Figures 10A and 10B illustrate these two patterns. The difference in taxable income due to the loss carry-forward effect on earned depletion is:

$$.25 \times CCA = .25 \times 30 = \$7.50$$

where CCA = that amount of CCA used to extend losses

The considerations involved in choosing how best to use CCA deductions are therefore similar to, but less important than, those involved in federal tax calculations.

3.3 British Columbia Mineral Resource Tax

The Mineral Resources Tax Act does not allow deduction of a resource allowance, nor does it permit loss carry-forwards. Since taxable income is calculated based on mine-specific (versus corporate) income, losses from one operation cannot be used to offset profits from another. The provincial mining tax also allows deduction of a processing allowance, as previously described.

British Columbia Mineral Resource Tax cont

Since balances for CCA and other deductions are kept on a separate basis to those for provincial and federal corporate taxes, the pools for these deductions and the deduction patterns used may differ substantially from those for the other taxes. Eligible expenditures for these pools are mine-specific, and will therefore often differ from the eligible pools used for the above taxes. Even if the pools are the same, however, deduction patterns used may be different.

Firstly, since losses cannot be carried forward, it is not to one's advantage to create or extend any losses through use of CCA deductions, as these deductions will be lost entirely.

Secondly, it may be advantageous in some cases to defer deduction of CCA in order to allow greater use of processing allowance deductions. Such a case is depicted in Figures 11A and 11B.* In Figure 11A, CCA is used immediately without regard to its effects on the processing allowance. Thus, by the time the processing allowance is deductible (year 10), the balance of undepreciated eligible processing assets is zero, and the minimum claim (15 per cent of taxable income before this deduction) may be claimed.

* It is assumed in these cases that processing assets comprise two thirds of all plant and equipment assets.

FIGURE 10A BRITISH COLUMBIA TAX USING CCA TO CREATE AND EXTEND LOSSES

	4	5	6	7	8	9
OPER PROFIT	150	150	150	150	150	150
- CCA	180	0	150	150	120	0
PROFIT AFTER CCA	(30)	150	0	0	30	150
- EXPL/DEVT	0	150	0	0	0	0
- E. DEPL	0	0	0	0	7.50	37.50
- LOSS C/F	0	0	0	0	22.50	7.5
B.C. TAX INC	(30)	0	0	0	0	105
B.C. TAX	0	0	0	0	0	15.75

FIGURE 10B BRITISH COLUMBIA TAX USING CCA TO REDUCE INCOME TO ZERO

OPER PROFIT	150	150	150	150	150	150
-CCA	0	150	150	150	150	0
PROFIT AFTER CCA	0	0	0	0	0	150
-EXPL/DEVT	150	0	0	0	0	0
- E. DEPL	0	0	0	0	0	37.50
- LOSS C/F	0	0	0	0	0	0
B.C. TAX INC	0	0	0	0	0	112.50
B.C. TAX	0	0	0	0	0	16.88

FIGURE 11A MINERAL RESOURCES TAX WITH CCA USED IMMEDIATELY

	1	2	3	4	5	6	7	8	9	10
OPER PROFIT	100	100	100	100	100	100	100	100	100	100
-CCA	0	50	100	100	100	100	100	50	0	0
PROFIT AFTER CCA	100	50	0	0	0	0	0	50	100	100
-EXPL/DEVT	100	50	0	0	0	0	0	0	0	0
-E. DEPL	0	0	0	0	0	0	0	12.5	25	25
SUB TOT	0	0	0	0	0	0	0	37.5	75	75
PROC ALL	0	0	0	0	0	0	0	5.63	11.25	11.25
MINE TAX INC	0	0	0	0	0	0	0	31.88	63.75	63.75
MINE TAX	0	0	0	0	0	0	0	5.58	11.16	11.16

TOTAL TAX = $27.90

PV @ 10 % = $11.64

British Columbia Mineral Resource Tax cont

In Figure 11B, CCA deductions have been deferred, allowing greater use of the processing allowance. Thus, in year 2 the maximum deduction of 65 per cent of income is used, and in year 3, 8 per cent of the undepreciated eligible asset base is deducted. The result yields a current dollar tax advantage for CCA deferrals. On a present value basis, however, the advantage is reversed. The best deduction pattern is therefore dependent upon the relative size of the income streams versus the size of the eligible processing asset pool, as well as on the discount factor one employs to calculate tax present values. Note that CCA deferral in Figure 11B could have been continued past year 3. The deferral period will depend upon the factors identified above.

3.4 Relaxing Some Assumptions

At the beginning of this analysis, it was assumed that the mining company in question operated only one mine, located in B.C. and further that all exploration and development expenditures were made within B.C. Some general comments are made here regarding the effects on the tax liability of relaxing these assumptions.

If the company operates more than one B.C. mine, depreciation, loss carry-forwards, and the other various deductions can be

FIGURE 11B MINERAL RESOURCES TAX WITH CCA DEFERRED

OPER PROFIT	100	100	100	100	100	100	100	100	100	100
-CCA	0	0	0	100	100	100	100	100	100	0
PROFIT AFTER CCA	100	100	100	0	0	0	0	0	0	100
-EXPL/DEVT	100	50	0	0	0	0	0	0	0	0
-E. DEPL	0	12.5	25	0	0	0	0	0	0	25
SUB TOT	0	37.5	75	0	0	0	0	0	0	75
PROC ALL	0	24.38	30.05	0	0	0	0	0	0	11.25
MINE TAX INC	0	13.13	44.95	0	0	0	0	0	0	63.75
MINE TAX	0	2.30	7.87	0	0	0	0	0	0	11.16

TOTAL TAX = $21.33

PV @ 10 % = $12.12

Relaxing Some Assumptions cont

transferred between mines to minimize the total federal and B.C. corporate tax liability, since neither tax is mine-specific. This will often work to the company's advantage, reducing the total tax liability by significant amounts in the case where the mines have great differences in profitability or are in different stages of development. For example, pre-production interest and CCA generated from a mine under construction may be fully useable as write-offs against another older mine whose deduction pools are almost spent.

Where one of these mines is located outside of B.C., operating profit figures and deduction pool amounts will differ for federal vs. B.C. corporate taxes, since B.C. deductions are often limited to within-province expenditures. The general rules developed for tax minimization remain unchanged.

Finally, in the examples used this section, exploration/development expenditure pools were restricted to pre-production expenditures. In a multi-mine company, these expenditures incurred in the pre-production period of a developing mine may be written off fully as current expenses against the income of an operating mine.

3.5 A Summary of Tax Minimization Rules

From the above examples, some general rules can be formulated as guides (but not guarantees) for tax minimization:

1. Tax liabilities should be deferred to later periods to the extent this is possible.
2. Exploration/development deductions should be taken before capital cost allowance to increase the potential for use of loss carry-forwards.
3. Interest expense and CCA should be used to create losses to the extent that these losses can be safely carried forward before staledating.
4. Losses can most easily be created by use of interest expense and CCA in the pre-production period, thus potential tax savings are greatest here. However, risk of loss staledating is also greater when this pattern is used. In general, therefore, interest expense incurred in the pre-production period is best capitalized and used later as CCA.
5. Interest expense incurred in the production period should be used fully.
6. The use of CCA in creating losses for B.C. Corporation Income Tax yields a tax advantage, but the advantage is less than for Federal Corporation Income Tax.

A Summary of Tax Minimization Rules cont

7. CCA deductions should not be used to create losses under the Mineral Resource Tax Act, since no loss carry-forward provision is available. In some cases, use of CCA should be deferred to allow for greater use of the processing allowance deduction.
8. Significant savings can be realized by transferring deductions between mines when a company operates more than one mine in a tax jurisdiction.

IV. INCIDENCE AND BURDEN OF TAXATION ON THE MINERAL INDUSTRY

4.1 Terminology

Nominal, or statutory tax rates refer to the maximum rate of tax applied to a taxpayers income net of allowable or permissive deductions. These rates are as set out under the legislation or regulations. Maximum marginal rates are similarly defined. These become applicable after a mine has reached a 'mature' status or when all permissive deductions have been exhausted.

Effective tax rates, in contrast, generally refer to the actual rate of tax paid on book net income. Thus, effective tax rates recognize the effect of permissive deductions.

4.2 Comparisons of Nominal and Effective Tax Rates

In British Columbia, the maximum nominal tax rate facing the metal mining industry is about 57 per cent. Jurisdictions with progressive rates (Ontario, Quebec and Manitoba) have higher rates of tax on highly profitable operations, and lower or similar rates on less profitable mines.

Effective rates of taxation for British Columbia and Canada are shown in Figures 12 through 15. A common thread running through

Comparisons of Nominal and Effective Tax Rates con't

these data is that taxes have increased markedly since 1970, from a low of some 21 per cent in 1970 to a high of 41 per cent in 1975 (data for Canada). British Columbia's effective tax rates have risen from 13 per cent in 1970 to 32 per cent in the same period and now stand at some 34 per cent (1977). If data for coal in British Columbia is purged from the data, the metal mining sector alone faced an effective tax rate of about 25 per cent.

Another observation that can be drawn from the data is that while taxes have increased over the period, British Columbia's rates are consistently below the national average by something in excess of 8 percentage points in each year for which data is available.

A more useful basis for comparison of taxes between jurisdictions is to examine the tax flows of a typical project in several jurisdictions over the life of the project. Such analyses have been done by the Mining Association of Canada using Noranda's computer program. Figures 16 and 17 show the results for a ' Lornex' mine and a 'Fox' mine.

International tax comparisons are very difficult to make due to differences between taxation philosophies, accounting conventions,

Comparisons of Nominal and Effective Tax Rates cont

categories of deductions and the currency of good data. In the United States, for example, the latest data is for 1973 and shows a 10 percentage point advantage in Canada (see Figure 18).

FIGURE 12

BRITISH COLUMBIA NOMINAL TAX RATE ON METAL MINING

TAX	PER CENT
British Columbia Corporate Income Tax	15
British Columbia Mineral Resource Tax (net of Processing Allowance)	14.88
Federal Income Tax (net of Resource Allowance)	27
	56.88

FIGURE 13

COMPARISON OF NOMINAL TAX RATES ON MINING IN CANADA

PROVINCE	APPROXIMATE MAXIMUM TAX RATE
New Brunswick	53.0
Newfoundland	53.0
British Columbia	57.0
Quebec	66.0
Ontario	71.0
Manitoba	73.0

FIGURE 14

EFFECTIVE TAX AND ROYALTY RATES ON MINING AND MANUFACTURING 1969 - 1975

YEAR	MINING	MANUFACTURING
1969	20.7	38.6
1970	21.7	41.2
1971	18.5	37.0
1972	25.4	36.0
1973	19.5	29.3
1974	36.7	30.1
1975	41.8	32.5

SOURCE: STATISTICS CANADA

FIGURE 15

BRITISH COLUMBIA EFFECTIVE TAX RATES ON MINING

YEAR	EFFECTIVE TAX & ROYALTY RATE (PER CENT)
1973	13.0
1974	28.4
1975	32.3
1976	34.4
1977	33.4*

*25.0% FROM METAL MINING.

SOURCE: MINISTRY OF ENERGY, MINES AND PETROLEUM RESOURCES

FIGURE 16
MAC ANALYSIS OF EFFECTIVE
TAX RATES ON 'LORNEX'
MINE, 1978

Province	Lornex Mine Rate of Return (%)	Effective Tax Rate (%) Actual dollar basis
New Brunswick	11.35%	44.5%
Quebec	11.21%	47.9%
British Columbia	11.04%	47.5%
Newfoundland	11.03%	43.1%
Ontario	9.89%	54.9%
Manitoba	9.69%	56.1%

Source: Mining Association of Canada, 1978

FIGURE 17

MAC ANALYSIS OF EFFECTIVE

TAX RATES ON 'FOX'

MINE, 1978

PROVINCE	FOX MINE RATE OF RETURN (%)	PROJECT EFFECTIVE TAX RATE (%) ACTUAL DOLLAR BASIS
QUEBEC	17.63%	41.5%
NEW BRUNSWICK	17.11%	45.0%
BRITISH COLUMBIA	16.56%	46.7%
ONTARIO	16.05%	47.4%
NEWFOUNDLAND	15.63%	43.7%
MANITOBA	12.89%	57.4%

SOURCE: MINING ASSOCIATION OF CANADA, 1978

FIGURE 18

CORPORATION INCOME TAXES AS A PERCENTAGE OF BOOK PROFITS, CANADA AND THE UNITED STATES, BY INDUSTRY

INDUSTRY GROUP	UNITED STATES 1973	CANADA 1973	CANADA 1974	CANADA 1975
AGRICULTURE, FORESTRY AND FISHING	39.5	19.0	26.0	35.5
MINING	42.8	15.2	25.7	32.6
MANUFACTURING	43.0	31.7	31.6	34.6
CONSTRUCTION	56.2	32.1	30.0	31.7
TRANSPORTATION, COMMUNICATIONS AND UTILITIES	25.8	27.1	27.5	27.5
WHOLESALE TRADE	35.9	41.3	41.7	44.3
RETAIL TRADE	45.0	36.8	36.5	38.2
FINANCE	35.3	34.7	35.4	37.7
SERVICES	50.0	39.8	34.6	39.0
TOTAL	39.7	31.0	32.4	35.4

SOURCE: STATISTICS CANADA, CORPORATION TAXATION STATISTICS, VARIOUS YEARS U.S. DEPARTMENT OF TREASURY, INTERNAL REVENUE SERVICE, CORPORATION INCOME TAX RETURNS, 1973.

V. RECENT MINERAL TAXATION INITIATIVES IN CANADA AND BRITISH COLUMBIA

5.1 Background

The current initiatives on mineral taxation as likely as not got started because the provinces and the federal government found themselves in disagreement over resource taxation objectives and over revenue sharing. These disagreements surfaced at a January 1978 meeting of Mines Ministers. In February of 1978, the Premiers and the Prime Minister (jointly referred to as the First Ministers) asked Mines and Finance Ministers to undertake a tax review.

About this time also, several mining industry associations made formal representations to the federal and provincial governments concerning the ill health of the mineral industry in Canada.

The symptoms of the malaise in the mineral industry are roughly as follows:

1. There has been much uncertainty over the stability of tax regimes both at the federal and provincial level. Both the federal and provincial governments must share the blame; the federal government because of Tax Reform measures introduced by the Carter Royal Commission on Taxation; the provincial governments for the major structural and tax rate changes brought in during the boom years; and both federal and provincial governments for vying for shares of resource sector revenues.

2. There is strong evidence of a deceleration in long-term growth and investment attractiveness in the mining industry. This commenced around 1970. This deceleration is partly a result of reductions in discoveries and new mines which commenced some years before this, partly a result of the attractiveness of deposits in other countries, and partly a result of fundamental changes in the tax regime.

3. There has been a noticeable deceleration in the rates of investment and exploration in the 1970 - 1977 period. The deceleration in investment is attributed in part to the large investments which were made earlier in the 1961 - 1970 period; the latter is partially explained as a response to declining success rates and to higher discovery costs relative to other countries.

4. The industry just now appears to be moving out of the "trough" of a 38 - 40 month cycle. The current cycle demonstrates properties not unlike four previous cycle patterns in the industry over the 1963 to 1975 period. However, there may be extenuating circumstances in this cautious recovery which may relate more to the Canadian dollar than to real market optimism, and possibly to renewed foreign political instability.

Background cont

5. Dramatic changes in mining costs. Labour indices have risen by over 200 per cent in the last ten years; plant and equipment indices have risen by 60 to over 100 per cent.

In the context of this fairly well documented decline in mineral development activity, who then have been the actors and what have been the salient tax issues?

5.2 Issues

The Mining Association of Canada has provided much of the analytic support which has assisted in analysis of the current tax regime and what might be done to improve it. The major thrust of the Mining Association of Canada's work was to show the relative investment attractiveness of a mining project under the pre-1971 tax system in contrast to the 1978 (pre-budget) tax regime in several of the provinces. One of the Mining Association of Canada's studies concludes that if a mine similar to Gibraltar was discovered in British Columbia today, development would likely proceed because of an estimated rate-of-return in excess of 16 per cent. This rate, of course, can be levered up through debt and heroic assumptions about metal prices. The study concludes that in British Columbia, a reasonably profitable mine is not unduly affected by taxes in British Columbia although marginal rates are high toward the end of project life.

Issues cont

The Mining Association has conducted similar analyses for the other provinces. Generally speaking, British Columbia's system comes off rather well particularly in terms of stability of rates of tax. However, the Mining Association task force did conclude that marginal tax rates in Canada were too high. British Columbia's maximum rate of tax on mining is about 57 per cent compared with Quebec at 66 per cent, Ontario at 71 per cent and Manitoba at 73 per cent. New Brunswick and Newfoundland are about 53 per cent.

The Mining Association recommended dropping nominal tax rates on mining to 45 per cent presumably to be in line with the marginal tax rates in other industrial sectors.

In the context of these and other structural or philosophical suggestions on possible tax changes, Mines and Finance Ministers were asked to examine the situation. We would like to highlight some of the conclusions of the research that was done by federal and provincial official. The more important conclusions of the report are as follows:

1. Federal and provincial nominal tax rates relative to profitability have increased since 1970. However, the effective tax rates, or what the mining companies actually paid in taxes, were in line with other industrial sectors. In British Columbia, for example, we have estimated that the effective tax rate on mining book income in 1977, is in the order of 33 per cent. In 1975, British Columbia

Issues cont

mining companies faced an average effective rate of about 32 per cent. This is in contrast to the Canadian mining average of 42 per cent and compares favorably to a Canadian manufacturing effective rate of 32 per cent. Other source data taken over a different sample (larger operations) indicates a 16 to 18 percentage point effective income tax rate advantage in mining over manufacturing. However, this gap would be narrowed by the addition of mineral resource taxes.

2. The contribution of the tax systems to current problems has been appreciably less than that of other factors. However, changes in federal and provincial tax systems in the 1970's led to uncertainty and negative investment perceptions. Therefore, the report concludes that governments should endorse the principle of tax system stability and give it substantial weight in considering future tax policy affecting this industry.
3. Federal and provincial governments should recognize each other's requirements for revenues. The federal government should recognize the provinces' rights to levy taxes and royalties on natural resources and the provinces in turn should recognize the federal government's right to protect its tax base. Note that this mutual recognition is related largely to the rationalization of the federal resource allowance in lieu of royalty and mining tax deductibility.

Issues cont

5. The report recommended "an acceptable level of tax in order to achieve an adequate level of capital investment, growth and development". The report singled out marginal tax rates in jurisdiction with progressive rate structures and alluded to the Saskatchewan potash situation as cases where tax burdens may be excessive. Otherwise, the industry does not appear to face tax burdens that are out-of-line with other industries. However, in recognition of the risk nature of the industry, the report recommended that taxes be minimal until invested capital is recovered. Arbitrary maximum tax rates, as suggested by the industry, were concluded to be neither necessary, realistic, nor appropriate given the effective tax rate circumstances of the industry.

6. The report concluded that processing of mineral ores should be encouraged through appropriate processing allowances, and incentives where a processing operation is viable and of net benefit. The study recommended examination of provincial mining taxes and royalties to determine if they were adequate to remove processing profits from mining tax liability. The study also recommended that provinces work toward processing incentives that do not lead to inter-provincial competition for the location of such activities. This competition appears presently to be the case between Manitoba and Ontario.

Issues cont

Ontario has a higher allowance in northern parts of the province for smelting and refining.

7. The study concluded that tax systems have become increasingly more complex. It recommended that governments strive for greater harmony between systems and greater simplicity by looking at ways to make the various tax systems more uniform.

The conclusions lead to joint federal and provincial acceptance of a set of resource taxation objectives which are outlined in Figure 19 .

5.3 Federal Initiatives

These and other recommendations were made by officials to Ministers of Mines and Finance and thence as a report passed by the Mines and Finance Ministers to the First Ministers on November 27, 1978.

For its part, the federal government has taken full cognizance of the report as evidenced by Mr. Chretien's November 16 budget. The budget proposals included provisions to increase the maximum claimable deduction rate for development from 30 per cent to 100 per cent and a provision to enhance the earned depletion pool to include company expenditures on townsites and other social assets. The federal government also moved to introduce investment tax credits for long haul transportation equipment. These measures, in our view, primarily indicate the following:

FIGURE 19

FEDERAL PROVINCIAL

OBJECTIVES OF MINERAL TAXATION

1. Stability and Certainty
2. Recognition of Cyclical Nature of Industry
3. Acceptable Level of Tax to Achieve Investment, Growth and Development
4. Acceptable Federal/Provincial Division of Revenues
5. Greater Harmony and Less Complexity
6. Encouragement to Further Processing
7. Consistency with Agreed National Priorities

Federal Initiatives cont

1. The federal government chose not to decrease tax rates on the industry as a means of sustaining and enhancing the contribution of the mineral sector.
2. The government moved to give increasing recognition to the concept of recovery of capital invested before taxes are levied.
3. The government removed some constraints to private sector investment in social infrastructure (townsite and other social assets), and transportation systems.

Mr. Chretien concluded that the federal tax system was basically sound although the proposed changes were thought to be necessary to spur the development of new ventures. He also indicated that he expected the provinces would do their part in this.

5.4 British Columbia Initiatives

The government of British Columbia was solidly behind the review of mineral taxation precipitated by First Ministers in February 1978. Furthermore, the objectives of taxation and recommendations made by officials in the review report were generally supported by the British Columbia Ministers of Finance and Mines.

British Columbia Initiatives cont

Because of the harmony of British Columbia's system of resource taxation with that of the federal government, provincial income and resource taxes currently allow several of the November 16 federal budget changes, particularly the increase in development expense write-off, the increase in the earned depletion pool, and the capitalization of overburden stripping.

British Columbia is currently evaluating certain specific aspects of its system of mineral taxation. This evaluation has been in response to several suggestions put forth by the Mining Association of B.C. and others and in response to the joint federal-provincial review and subsequent federal budget initiatives. It will be necessary to examine the industry's suggestions in the light of federal budget changes, political, philosophical and equity considerations.

In summary, one or two observations that might indicate the apparent thrust of the current initiatives might be in order. Firstly, Mr. Chretien's budget could be seen to be a direct response to current mineral industry concerns and also the results of a jointly approved federal-provincial review report on mineral taxation. So, the federal government has made its move and the ball would appear to be in the provincial government's court.

British Columbia Initiatives cont

Secondly, industry and government studies and industry submissions are generally supportive of the British Columbia system of mineral taxation. Our system is consistent with the objectives of resource taxation mentioned earlier and also is reasonably harmonious with the federal system. This is not to say that some improvements cannot be made and these, we believe, are the thrust of current industry suggestions to the government in British Columbia. Industry spokesmen in British Columbia have suggested examining ways to reduce the tax burden on B.C. mining through adjustments to the processing allowance which might more effectively eliminate processing income from mineral resource taxation, consideration of allowing loss carry-forwards, and other measures to make the B.C. tax system more uniform with the federal system.

These and other suggestions are currently being evaluated by experts in the industry and the government and we are very hopeful that the dialogue that has developed will bear fruit in the near future.

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